

the level of anxiety and depression in both women and men. However, women achieved higher improvement. Consequently, at the end of the program, women and men had a similar prevalence for anxiety and depression.

## 0477

### Compression of the right ventricle by pectus excavatum in a gymnast: a case report

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**Introduction:** The pectus excavatum is the most common chest deformation. It is usually congenital or develops during growth. In addition to aesthetic problems, it can cause cardiac compression, breathing difficulties and constant pain. This affection may limit the practice of sports especially when a sporting career is considered.

**Clinical case presentation:** We report the case of gymnast girl in the national team who's 15 years old. She complains since several months dyspnea and faintness on exertion. The physical examination revealed a mild pectus excavatum. The resting electrocardiogram showed an incomplete right bundle branch block. A 24 hour holter monitoring showed one episode of a nocturnal non sustained ventricular tachycardia composed of 12 beats with a left bundle branch morphology. Transthoracic echocardiography was normal. A stress test was conducted revealing the occurrence of a single ventricular extrasystole and dizziness at the end of the test. Cardiac MRI was realized showing a significant compression of the right ventricle by the pectus excavatum with no signs of arrhythmogenic right ventricular dysplasia. The pulmonary function was normal. Despite the mild clinical form of this pectus excavatum the cardiac impact seems significant. Temporary sports inaptitude was indicated for further explorations and therapeutic decisions. Remodeling surgery is being discussed for her

**Conclusion:** Is surgery mandatory for this patient if she gives up sports? The treatment of this deformation may it allow this gymnast to continue her high level training? This case was rarely reported and underlines the importance of a working group in order to make a decision regarding this kind of pathology.

## 0508

### Cardiovascular abnormalities detected in the preliminary medical assessment before the integration at the Higher Institutes of the Sport and Physical Education

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**Introduction:** To be integrated in the Sport and Physical Education Higher Institutes (SPEHI), the student must benefit from a standard medical assessment.

**Objectives:** Determine the frequency of various cardiovascular anomalies and atypical aspects observed in Tunisian students before integration in the SPEHI.

**Patients and Methods:** Our population was constituted of 1077 students (average age 19.5 years, sex ratio 1.3), consulted to obtain medical certificate authorizing integration at the SPEHI.

**Results:** The clinical examination revealed a functional systolic breath in 26 cases, a mitral regurgitation systolic breath in 4 cases and a pulmonary regurgitation systolic breath in one case. The Electrocardiogram was normal in 761 students. An incomplete Right Bundle-Branch Block in 56 students, a complete RBB in 6 cases, a first-degree Atrio Ventricular Block in 6 case, a sinus bradycardia in 30 cases, a permanent sinus tachycardia in 42 cases, a narrow PR interval in 34 cases and Left Ventricular Hypertrophy according to Sokolow index in 18 cases and a repolarisation abnormalities in 19 cases. A Wolff Parkinson White syndrome was detected in 3 students. A case of asymptomatic induced Brugada syndrome (by Flecaïne Test). Other cardiovascular assessments were prescribed in 48 cases: 22 Stress test, 11 rhythmic recording, 3 blood pressure recording, 35 Echocardiography and eletrophysiological exploration in one student. They were all normal except for one case of tiny mitral regurgitation. No anomaly imposing inability of the sporting practice was found, but a medical follow-up is essential, particularly in the case of Brugada and WPW syndrome. The previous practice of a sport seems to influence the resting heart rate ( $p = .0004$ ), The T amplitude ( $p = 0.005$ ), QRS axis ( $p = 0.005$ ) and the Sokolow index ( $p = 0.01$ ).

**Conclusion:** This study suggests the interest of a systematic medical evaluation in particular cardiovascular assessment before integration at the SPEHI.

## 0509

### Effect of maximal exercise tolerance on response time in Tunisian sporting students

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**Introduction:** The response time has a significant role on the sports performance, particularly during speed tests. An initial maximum exercise could affect this response time and therefore the performance.

**Objective:** to study the influence of a maximum test on the response time at Tunisian sporting pupils.

**Materials and Methods:** 70 sports students participated in the study (16 years  $\pm 1.12$ , sex ratio = 1.5). They carried out a triangular Stress Test on ergometric bicycle according to the Wasserman protocol. We measured simple response time (SRT) and complicated (CTR) before and after the maximum test using the Superlab software (version 7.01). The sports specialties were: athletics 21 (30%), judo 20 (28.6%), karate 16 (22.9%), game of bowls 7 (10%) and gymnastics (8.5%).

**Results:** The simple response time (SRT) was on average  $345.82\text{ms} \pm 41.92$  before the stress test and  $349.35\text{ms} \pm 48.44$  after the test; with a non-significant difference ( $p = 0.64$ ). The error rate decreased after the exercise in a non-significant way ( $p = 0.20$ ). About the complicated response reaction time (CRT), the values were respectively  $465.29\text{ms} \pm 59.41$  and  $456.13\text{ms} \pm 52.76$  before and after the test ( $p = 0.33$ ). The error rate also decreased after the exercise in a non-significant way ( $p = 0.45$ ). No influence of the BMI was found on measures of SRT and CRT as well before and after effort.

The sporting specialty seems to influence the CRT before and after effort.

The comparison of the average measures of the response time between sporting specialties showed a statistically significant difference on the CRT before ST between the karatekas and the judokas ( $p = 0.04$ ) and on the CRT after ST between the gymnasts and the karate experts ( $p = 0.04$ ).

**Conclusion:** The stress test realized in this study does not have a significant effect on the simple or complex response time of our young sportsmen. The sex as well as the sporting specialties influence only relatively the complex response time.